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December 19, 1985

Project No. 850037

Dr. Michael J. Champion
Riverdale Chemical Company
220 East 17th Street
Chicago Heights, IL 60411

Proposed Scope of Work
Phase II Remedial Investigation
Riverdale Chemical Company
Chicago Heights, Illinois

Dear Dr. Champion:

International Technology Corporation (IT) is pleased to submit this proposed scope of work for the second phase of the Remedial Investigation at the Riverdale Chemical Company (Riverdale) site.

1.0 INTRODUCTION

IT Corporation was retained by Riverdale to conduct the Phase I Remedial Investigation in accordance with the consent decree entered into by Riverdale and U.S. EPA Region V. The field program was carried out in October of 1985 and involved collection of samples from soil boring and surface soil sampling locations. The samples were analyzed for 2,3,7,8-TCDD, Hazardous Substance List (HSL) organics and pesticides. The results of this investigation were presented to U.S. EPA Region V in the Phase I Remedial Investigation report dated December 11, 1985.

The findings of the report indicate that:

- 2,3,7,8-TCDD contamination is present off-site. Independent testing has confirmed its presence in soils immediately adjacent to Riverdale's western property boundary. It has also been detected in erosional drainage ways leaving the property to the south.

- The chlorinated pesticides, aldrin, dieldrin, chlordane, 4,4'-DDE, 4,4'-DDD, and heptachlor have been detected in high concentrations in composite soil sample SS-(08, 09, 10, 11), which is located near the front of the plant.

Based on these findings, IT had recommended that a second phase of sampling and soil analysis be conducted to define the off-site extent of 2,3,7,8-TCDD contaminated soils and to better define the extent of pesticide contaminated soils near the front of the plant. This information is needed to assess site hazards and to develop and evaluate remedial alternatives. The proposed scope of work is presented in the following sections.

2.0 INITIAL REMEDIAL MEASURES (IRM'S)

Because of the high visibility of this site, IT recommends that Riverdale take immediate steps to cover those areas where 2,3,7,8-TCDD has been detected in off-site soils. We specifically recommend the following IRM's:

2.1 WESTERN PROPERTY BOUNDARY AND ADJACENT (CHS) PROPERTY

Efforts should be made to cover the strip of barren soil over an area defined by the southwest corner of the Riverdale property (SS-16), north to a point approximately 25 feet north of sampling point SS-15, east approximately 30 feet and south to a line parallel to the southern property boundary running through sampling point SS-16. The approximate area is outlined on Figure 1.

This can be accomplished by laying down a geotextile fabric tarp similar to the one covering the tarped area east of the tank farm. As an alternative, crushed stone or gravel can be used to cover the exposed area. The advantage to using the tarp over the crushed stone is that the volume of potentially contaminated materials resulting from contact with the soil is greatly minimized. This will minimize the over volume of soil which may eventually have to be cleaned up, thereby minimizing the overall cost of mitigation.

2.2 SOUTHERN PROPERTY BOUNDARY AND EROSIONAL DRAINAGEWAYS

Efforts should be made to prevent additional sediment transport off the site via the erosional drainage ways emanating from the southern property boundary. Towards this end, IT recommends that straw be placed along the fence at the heads of these drainage ways. The straw will act as a sediment trap for potentially contaminated soil particles and will help to slow water velocity, thereby reducing potential for erosion during the spring runoff.

3.0 PHASE II SOIL SAMPLING

IT recommends that additional surface soil sampling be conducted on the adjacent properties to the south and west of the Riverdale site, and on the soils at the front of the plant. The specifics are presented below.

3.1 SAMPLING ON CHICAGO HEIGHTS STEEL PROPERTY

Surface soil samples will be collected along three east-west trending transects running perpendicular to the western property boundary. Samples will be collected at distances of 15, 30 and 45 feet from the fence. A maximum of nine samples will be collected. Tentative locations are shown in Figure 1.

At each location, a square approximately 8 X 8 inches will be inscribed on the ground surface. The soil will be scored and scraped to a depth of approximately one inch and placed in a stainless steel tray. All tools will be stainless steel to facilitate equipment decontamination. The soils will be thoroughly mixed and a portion will be placed in a labeled, specially cleaned 500 ml glass amber jar. Each location will be marked with a wooden or steel stake showing the location number.

Samples from the 15 and 30 foot distances (a total of six samples) will be submitted for analysis of 2,3,7,8-TCDD. If the samples collected from the 30-foot location indicate that dioxin is present, the samples from the 45-foot location will be submitted for analysis. This stepped approach is an economical way of bracketing the contaminated areas.

Analytical services will be provided by IT's analytical laboratory in Knoxville, Tennessee. Strict chain-of-custody procedures will be followed. Sample documentation will be in accordance with the Quality Assurance Project Plan (QAPP) previously approved for this site.

3.2 SAMPLING IN EROSIONAL DRAINAGE WAYS

Additional surface soil samples will be collected from the erosional drainage ways emanating from the southern property boundary. During the Phase I remedial investigation, three principle erosional channels were observed. The general location is indicated in Figure 1.

IT proposes to collect one surface soil sample from each drainage way. The sample will be taken from the furthest extent of barren soils at each location. Approximate locations are shown in Figure 1. Sample collection methodology, decontamination and documentation procedures will be identical to those described in Section 3.1.